WHAT IS CLAIMED IS:

1.   A data driver for driving multiple data lines on an LCD panel according

to multiple channels of pixel data, the data driver comprising:

a digital buffer for receiving and storing the pixel data at several times

5   and selectively outputting a channel of the pixel data at a time;

a DAC (digital-to-analog converter) for receiving the pixel data output

from the digital buffer at several times, converting the pixel data into multiple

channels of analog pixel data and outputting the analog pixel data at several

times;

10   an analog buffer for receiving the analog pixel data output from the

DAC at several times and for outputting the analog pixel data at a time; and

an output buffer for receiving the analog pixel data output from the

analog buffer so as to drive the data lines.

2.   The data driver according to claim 1, further comprising a shift register

15   for commanding the digital buffer to receive the pixel data.

3.   The data driver according to claim 1, wherein the digital buffer includes

a first line buffer and a second line buffer; the first line buffer receives

and stores the pixel data at several times; when the first line buffer

finishes its receiving operations, the first line buffer parallely transfers

all the pixel data stored therein to the second line buffer; and the

second line buffer outputs a channel of the pixel data to the DAC at a

5   time.

4.   The data driver according to claim 3, further comprising a line buffer

control circuit, and the second line buffer comprising multiple line buffer

units, wherein the line buffer control circuit selects one of the line buffer

units at a time, and the second line buffer outputs the pixel data stored

10   in the selected line buffer unit.

5.   The data driver according to claim 1, wherein the analog buffer

comprises multiple analog buffer units and the analog buffer units

receive the analog pixel data output from the DAC at several times.

6.   The data driver according to claim 5, further comprising an analog

15   buffer control circuit for commanding the analog buffer to receive the

analog pixel data output from the DAC and to store the analog pixel

data in the analog buffer units at several times, and for commanding

the analog buffer to parallely output the analog pixel data to the output

buffer after the analog buffer finishes its receiving operations.

7.   A data driver for driving multiple data lines on an LCD panel according to multiple channels of pixel data, the data driver comprising:

a digital buffer for receiving and storing the pixel data at several times and selectively outputting N channels of the pixel data at a time, wherein N is

5   a positive integer greater than 1 and smaller than the number of the data lines;

N sets of DACs (digital-to-analog converters) for receiving the pixel data output from the digital buffer, simultaneously converting N channels of the pixel data into N channel of analog pixel data, and outputting the analog

10   pixel data;

an analog buffer for receiving the analog pixel data output from the DACs at several times and outputting the analog pixel data at a time; and

an output buffer for receiving the analog pixel data output from the analog buffer so as to drive the data lines.

15   8.   The data driver according to claim 7, further comprising a shift register for commanding the digital buffer to receive the pixel data.

9.   The data driver according to claim 8, wherein the digital buffer

comprises a first line buffer and a second line buffer; the first line buffer

receives and stores the pixel data at several times; when the first line

buffer finishes its receiving operations, the first line buffer parallely

transfers all the pixel data stored therein to the second line buffer; and

5   the second line buffer selectively outputs N channels of the pixel data

to the DACs at a time.

10.   The data driver according to claim 9, further comprising a line buffer

control circuit, and the second line buffer comprising multiple line buffer

units, wherein the line buffer control circuit selects N line buffer units

10   from the line buffer units at a time, and the second line buffer outputs

the pixel data stored in the selected line buffer units.

11.   The data driver according to claim 7, wherein the analog buffer

comprises multiple analog buffer units, which receive the digital pixel

data output from the DACs at several times.

15   12.   The data driver according to claim 11, further comprising an analog

buffer control circuit for commanding the analog buffer to receive the

pixel data output from the DACs and to store the pixel data in the

analog buffer units at several times, and for commanding the analog

buffer to parallely output the pixel data to the output buffer after the

21

analog buffer finishes its receiving operations.

*　　*　　*　　*　　*